the humus zone. Its habitat is under the top layer of leaves and hemlock spills, or under bark and logs in a cover of fallen limbs and twigs.

NOTES ON *HYGROMIA STRIOLATA* (PFR.) AT TORONTO, CANADA

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This European land snail, also known under the names *Helix rufescens* (Penn.), *Fruticola rufescens* (Penn.) and *Trichia striolata* (Pfr.) has for many years been established at Quebec City. (J. F. Whiteaves, "On the land and fresh water mollusca of Lower Canada," Can. Nat. & Geol. 6 : 452, 1861). A colony of this same species has been recently discovered at Ottawa by Mr. G. E. Fairbairn. (Can. Field-Nat. in press). Mr. A. LaRocque kindly pointed out to me that Justice F. R. Latchford (Ottawa Nat. 7 : 132, 1893) many years ago secured a batch of this species from Quebec City and liberated them in Ottawa. However, Mr. LaRocque considers that the existing Ottawa colony has probably been derived from some other source.

The purpose of the present paper is to record the occurrence of *Hygromia striolata* at Toronto, to suggest its probable source, to indicate its present extent and abundance and finally to mention some observations, chiefly on the pigmentation of shell and mantle.

I am indebted for assistance to Professor J. R. Dymond, Mr. A. LaRocque and my wife.

Occurrence.—The Toronto colony was discovered by my wife and myself in November, 1937. *H. striolata* has apparently lived unnoticed for several years here. Such neglect is not strange, as the species is confined to a small extent of waste land. However, it is possible that it has been noticed before, but under the wrong name. Thus Robertson ("Mollusca" in Natural History of the Toronto Region, 1913, p. 289) lists "*Gastradonta ligera* Say" for the Toronto region—an unlikely record which has never been authenticated. His *G. ligera* was based, I believe, either on *H. striolata* or on an immature specimen of some *Polygyra.*

Probable Source.—Mr. E. V. Rippon has informed the author that in August, 1894, he imported a shipment of between 65 and 90 living snails, comprising *Cepaea nemoralis* (L.) and *C. hortensis* (Müll). He obtained these from Upper Norwood (Crystal Palace), Kent, England, and liberated them in Rosedale Valley Drive, Toronto, near the Huntley and Sherbourne St. bridges. The two bridges just mentioned mark the extent where *H. striolata* now abounds.

Thus, circumstantial evidence points to the strong probability that the Toronto colony of *H. striolata* came from a few individuals accidentally introduced with some intended settlers (*Helix nemoralis* and *H. hortensis*). Incidentally, the stock of the latter two species seems to have perished utterly in this vicinity.

Extent.—A fair amount of mollusk collecting has been done around Toronto during the past few years. However, *Hygromia striolata* has been discovered only in the single station—Rosedale Valley Drive, a small ravine, situated fifteen minutes walk from the Royal Ontario Museum. The snail under consideration has a very small range in this ravine. It occurs in abundance from the Huntley St. bridge to the Sherbourne St. bridge (a distance of about two hundred yards). A few individuals were found extending another two hundred yards eastwards to the Glen Road bridge. An intensive search in suitable locations to the east and west of the above limits revealed no further specimens.

Abundance.—In a few spots, a very high number was found. The highest population was that occupying a matted mass of vines 50 yards east of Huntley Street, on the south side of the road. Here, in an area of 12 square feet, 612 adults, 202 young and 50 dead shells were collected in twenty-five minutes. This figure may be too low by one or two hundred, since no special sifting technique was employed to secure the young individuals. The average population for the entire range, however, was much lower and probably was not over ten or twenty per square foot.

Observations on Pigmentation of Mantle and Shells.—In size, shape and color, the shell of the Toronto specimens resembles closely those from Quebec City and Ottawa. This opinion is based on small series at hand from these two latter localities, received from Mr. LaRocque and Mr. Fairbairn.

The living specimens may be separated fairly readily into "light" and "dark" groups, representing one-third and two-thirds respectively of the total population. This difference in shade is due chiefly to the amount of pigment in the mantle. In the "light" group, there are scattered blotches of brownish or black pigment, while in the "dark" group there is usually solid black. This divergence in shade is strikingly displayed by comparing the preserved extracted animals of the two groups side by side. Pigmentation in the cleaned shell itself partially accounts for the appearance of the living snail—the "dark" group having on the average a slightly darker shell.

This information is tabulated below:

Series	Animal	Shell						Totals	
		Red-Brown		Brown		White			
		No.	%	No.	%	No.	%		
I	Dark (64%)	7	2	351	91	28	7	386	605
	Light (36%)	0	0	201	92	18	8	219	
II	Dark (68%)	8	7	103	88	6	5	117	171
	Light (32%)	0	0	46	85	8	15	54	

a. Both the above series were collected at random, *i.e.,* care was taken to extract every specimen from a given area, regardless of color or shade.

b. Series I is the large collection (less the immature and 7 adult shells accidentally destroyed in cleaning) made on the south side of the road, 50 yards east of Huntley Street. It was obtained from an area of 12 square feet.

Series II is an amalgamated collection accruing from several small areas within a rectangle (25 yards × 10 yards) which was chosen on the north side of the road about 100 yards east of Huntley St.

c. All these shells referred to above and a large part of the extracted animals are preserved in the collections of the Royal Ontario Museum of Zoology for future reference.

d. Some of the varietal names proposed for this European snail appear to be applicable to the above color phases of the shells (Ellis, "British Snails," p. 210, 1926).

My "red brown" = "var. *rubens*" Moquin-Tandon.
"white" = "var. *alba*" " "
"brown" = "var. *albocincta*" Cockerell, chiefly.

Miscellaneous.—I. *Habitat: H. striolata* dwells in waste ground, in open woods, under decaying leaves, sticks and matted vegetation; chiefly on the flats: less on the hillside. 2. *Habits:* Twice on cool rainy days the snails have been observed crawling over fallen leaves. Once we saw a few individuals climbing up the trunk of a willow tree to a height of three or four feet.

3. *Molluscan Associates.*

Common: Arion circumscriptus Johnston, Deroceras agreste (L.), Cochlicopa lubrica (Mull.), Gonyodiscus cronkhitei anthonyi Pils., Vallonia pulchella (Mull.), Vallonia costata (Mull.).

Scarce: Oxychilus cellarius (Mull.), Deroceras campestre (Say) ?, Zonitoides nitida (Mull.) ?.

ADDITIONAL DATA ON COPIES OF SAY'S AMERICAN CONCHOLOGY

BY H. E. WHEELER

Recently located copies of Say's American Conchology are as follows. The author requests detailed report on any other copies that may be in public or private libraries.

A copy is reported in the Library of Dr. L. C. Glenn, Vanderbilt University, which contains all the parts, but lacks the Glossary. It was not stated whether this copy has the original covers.

There is a copy in the Library of Charleston, S. C., Museum, which contains six parts and covers to all parts except the 5th. This copy originally belonged to Dr. Edmund Ravenel. There is a letter in the Library from Thomas Say to Dr. Ravenel enquiring whether he had received part 5 and the Glossary, but the Glossary is not with the copy now.

There is also a copy in the Cornell University Library which was purchased in 1897. Parts 6 and 7 are missing, also the Glossary. When this copy was bound by the Library the original covers were not preserved.

Data on a copy in University of Colorado Museum Library were given by Prof. Hugo G. Rodeck in the January Nautilus, p. 108.